

# Curriculum Vitae

Charles Barry Burns

## Education

University of North Carolina at Chapel Hill

Master of Science

Major: Public Health

Concentration: Radiological Hygiene

University of North Carolina at Chapel Hill

Bachelor of Science

Major: Radiologic Science

North Carolina Memorial Hospital

Certificate

Radiologic Technology

## Professional Experience

December 1998 to  
Present

Professor

Division of Radiologic Science

Departments of Medical Allied Health Professions and Radiology

School of Medicine

University of North Carolina

October 1993 to  
December 1998

Associate Professor

Division of Radiologic Science

Departments of Medical Allied Health Professions and Radiology

School of Medicine

University of North Carolina

October 1985 to  
October 1993

Assistant Professor

Division of Radiologic Science

Departments of Medical Allied Health Professions and Radiology

School of Medicine

University of North Carolina

October 1982 to  
October 1985

Instructor

Division of Radiologic Science

Departments of Medical Allied Health Professions and Radiology

School of Medicine

University of North Carolina

March 1975 to  
October 1982

Lecturer

Division of Radiologic Science

Departments of Medical Allied Health Professions and Radiology

School of Medicine

University of North Carolina

November 1967 to  
March 1975

Technologist Director

Radiologic Technology Certificate Program

North Carolina Memorial Hospital

September 1965 to  
November 1967

Radiation Safety Technician

Health and Safety Office

University of North Carolina at Chapel Hill

### **Professional Certification**

Registered, in good standing, by the American Registry of Radiologic Technologists

Certified in Diagnostic Radiologic Physics by the American Board of Radiology

### **Professional Societies**

American Society of Radiologic Technologists

Member, 1968 to Present

Delegate, 1993 to Present

Chairman, Radiation Protection and Physics Committee - 1996

Chairman, Reference Committee on Professional Practice, 1998

Chairman, Commission on Professional Practice, 1998 - 1999

North Carolina Society of Radiologic Technologists

Member, 1964 to Present

Board Advisor, 1999 - 2000

Meeting Planner; 1990 to 1993

Meeting Advisor; 1986 - 1990

Chairman, Board of Directors; 1986 - 1987

Junior Board Member; 1985 - 1986

President; 1984 - 1985

President Elect; 1983 - 1984

First Vice President; 1981 - 1982

Board Member At Large; 1976 - 1981

Chairman, Technical Bowl Committee; 1978 - 1983, 1986 to Present

Association of Educators in Radiologic Science

Member 1991 to 1999.

North Carolina Chapter of Health Physics Society

Member 1980 to 1993

Health Physics Society

Member 1980 – 1993

### **Professional Service - Committees and Appointments**

#### **National:**

Delegate, ASRT House of Delegates, 1993 to present.

Chairman, Radiation Protection and Physics Committee - 1996

Member, Commission on Professional Practice, 1998

Chairman, Reference Committee on Professional Practice, 1998

Chairman, Commission on Professional Practice, 1999

#### **State:**

Member, North Carolina Radiation Protection Commission. Appointed by Governor James Hunt, September 1983. Reappointed by Governor James G. Martin, June 1987 and November 1991. Reappointed by Governor James Hunt 1995 and 1999. Reappointed by Governor Micheal Easley, 2003.

Commission Chairman 2000 - 2001

Member, X-ray Surveillance Committee 1983 to present

Chairman, X-Ray Surveillance Committee 1989 to present

#### **UNC Hospitals**

Member, Quality Control Committee, North Carolina Memorial Hospital, Department of Radiology, 1980 to present.

**Professional Service - Consultant:**

**North Carolina Department of Environment, Health and Natural Resources, Division of Adult Health, Division of Radiation Protection, Breast and Cervical Cancer Control Program. 1994 - Present**

Mammography consultant to the North Carolina Breast and Cervical Cancer Control Program. I respond to negative reports from FDA and state inspections of mammographic facilities. My task is to improve the quality of mammographic services, increasing diagnostic accuracy. In the last five years this project has decreased the number of FDA violations by 88% via education and direct site visit intervention.

**North Carolina Medical Examiners Office, Chapel Hill, N.C. 1995**

Wrote specifications for new x-ray film processor, selected a new image receptor system, and designed a radiographic technique chart for the medical examiners radiographic facility. Trained the technicians in basic radiographic principles and protection.

**North Carolina Memorial Hospital, Department of Radiology, 1976 to present.**

Evaluate image receptor systems, films, screens, cassettes, and rapid processing chemistry. Advise on selection of radiographic accessories, generators, and ancillary equipment. Assist in preparation of radiographic technique guides. Developed special filters to reduce patient exposure during research projects requiring radiographic exposure, 1989. Developed a special remnant beam filter to improve image quality of femoral angiography, 1987 - 1988. Altered femoral angiography filter in 1991 to utilize lighter weight aluminum instead of acrylic. Currently modifying image processing algorithm parameters of Fuji CR system to provide image characteristics desired by attending radiologists.

**3M Medical Imaging Division. St. Paul, MN. 1988 to 1994.**

Evaluation of new films designed to eliminate the problem of negative pressure artifacts. Made and evaluated modifications to chest compensating filtration originally developed by Dan Ferlic. Modifications designed to improve visualization of pulmonary pathology and simultaneously reduce patient exposure.

**Triangle Universities Licensing Consortium - Smithers Medical Products Inc., Akron, Ohio. 1991**

Design and marketing of remnant beam filters for femoral angiography. Developing additional applications for the special resin cast material developed by Smithers for the fabrication of the angiographic block filters.

**Rex Hospital Department of Radiology, Raleigh, N.C., 1991.**

Evaluation of processing chemistry and processing chemical mixer evaluations.

**University of North Carolina, Division of Physical Therapy. 1991, 1993, 1995, 1996**

Developed special filtration and selected image receptors to minimize exposure to subjects receiving exposure to radiation as part of research projects. Assembled and utilized the filters and image receptors during the research projects.

**University of North Carolina, Department of Medicine, and School of Pharmacy. 1991, 1993.**

Developed filtration and selected image receptors to minimize exposure to subjects receiving radiographic and fluorographic radiation exposure as part of research projects. Assembled and utilized the filters and image receptors during the research projects.

**North Carolina State University, School of Veterinary Medicine 1988, 1991, 1993 - 2003.**

Evaluated image receptors. Assisted in establishing a quality control program and developed exposure factor charts. Conduct imaging physics classes for veterinary radiology residents.

**Educational Materials Project Appraisal Panel, Association of American Medical Colleges, Washington, DC. Review Panel Member 1977 - 1984.**

Evaluated and recommended audiovisual materials on Radiology and Radiologic Technology.

**Publications - Textbook Chapters:**

Burns, CB, Smith, B, Carlton, R (2001) Chapter 14, *Digital Radiography*, Principles of Radiographic Imaging, Third Ed., Carlton, R, Adler, A, Albany, NY, Delmar Publishers.

Burns, CB, (1994). Chapter 17, *Equipment and Accessory Malfunction or Misapplication*, Chapter 18, *Quality Control*. Thompson, M; Hattaway, M; Hall, J; Dowd, S; Principles of Imaging Science and Protection, pp 379 - 413. Philadelphia, PA: W.B. Saunders.

Burns, CB, (1995). Chapter 28, *Computed Digital Radiography*, Dowd, SB, Wilson, BG; Encyclopedia of Radiographic Positioning, pp. 1153 - 1164, Philadelphia, PA, W.B. Saunders.

**Publications - Refereed Journals:**

Pisano ED, Britt GG, Schell M,, Burns CB, Yin Y, Brown ME, Factors Affecting Phantom Scores at Annual FDA Mammography Facility Inspections In Press. *Academic Radiology*.

Pisano ED, Schell M, Rollins J, Burns CB, Hall B, Lin Y, Braeuning MP, Burke E, Holliday J. Has the Mammography Quality Standards Act Affected the Mammography Quality in North Carolina? *AJR* 2000; 174: 1089-1091.

Braeuning MP, Cooper HW, Burns CB, Washburn D, Schell MJ, Pisano ED. The effects of processing conditions on mammographic image quality. *Academic Radiology* 1999; 6: 464-470.

Reynolds, KS, Song, MH, Heizer WD, Burns CB, et. al., Effect of Pancreatico-Biliary Secretions and GI Transit Time on the Absorption and Pharmacokinetic Profile of Ranitidine in Humans, Pharmaceutical Research, 1998, Vol. 15, No. 8: 1281 - 1285.

Pisano, ED, Burns, CB, Washburn, D., Educational Outreach to Mammography Facility Staff to Assist with Compliance with the Mammography Quality Standards Act In Rural North Carolina, Academic Radiology, 1998; # 5, 485 - 490.

Gross, MT, Burns, CB, Chapman, SW, et. al., Reliability and Validity of Rigid Lift and Pelvic Leveling Device Method of Assessing Functional Leg Length Inequality, Journal of Orthopedic and Sports Physical Therapy, Vol. 27, No. 4, 285 - 294, April 1998.

RE Johnston, D Washburn, E Pisano, CB Burns, et. al., Mammographic Phantom Studies with Synchrotron Radiation, Radiology 1996, 200:659 - 663.

Burns, CB, "Achieving Darkroom and Processing Quality Control in Mammography: A Step Beyond Minimum Recommendations." Seminars in Radiologic Technology, Vol. 3, No. 2, September 1995.

CB Burns, " Using Computed Digital Radiography Effectively", Seminars in Radiologic Technology, Vol. 1, No. 1, November, 1993.

MT Gross, AD Tyson, CB Burns, "Effect of knee angle and ligament insufficiency on anterior tibial translation during quadriceps muscle contraction: a preliminary report. Journal of Orthopedic and Sports Physical Therapy, Vol. 17, No. 3, March 1993.

CB Burns, JB Renner, "Molybdenum/aluminum filters perform effectively", Radiologic Technology, Vol. 64, No. 4, March/April 1993.

C. Burns, J. Renner, P. Gratale, L. Moyle. "Niobium/Aluminum Filters Reduce Patient Exposure". Radiologic Technology, Vol. 63, No. 3: 170 - 177, January/February 1992.

P. Gratale, C. Burns, J. Murray. "Advantages of A 400 Speed Image Receptor for Cast Radiography". Radiologic Technology, Vol. 58, No. 5: 401 - 403, May/June, 1987.

**Publications - Refereed Journals: Cont'd.**

P. Gratale, C. Burns, G. Turner. "Using the Same Technique for Wet and Dry Casts". Radiologic Technology, Vol. 57, No. 4: 325 - 328, March/April 1986.

P. Gratale, G. Turner, C. Burns. "A Modified A.P. Projection of the Thumb". Radiologic Technology, Vol. 56, No. 5: 320 - 322, May/June 1985.

C. Burns, D. Washburn. A review of the radiograph file "Principles of Imaging - Radiologic Health Sciences Learning File". Medical Physics, p. 262, March/April, 1985.

A. Alsworth, J. Seeds, B. Guilford, C. Burns, D. Washburn. "Prenatal Diagnosis of a Severe Deforming Type of Osteogenesis Imperfecta." American Journal of Medical Genetics, Vol. 19: 707 - 717, 1984.

G. Turner, C. Burns. "Erect Positions for Tunnel Views of the Knee". Radiologic Technology, Vol. 55, No. 2: 640-642, November/December, 1983.

C. Burns, G. Turner. "The Effect of Decreased Developer Activity on Patient Exposure." Radiologic Technology, Vol. 54, No. 5: 391-393, May/June 1983.

G. Turner, C. Burns. "Erect Positions for Tangential Projections of the Patellofemoral Joint". Radiologic Technology, Vol. 54, No. 1: 11-13, September/October, 1982.

**Publications - Abstracts:**

D. Washburn, C. Burns, J. Streater, J. Cuttino, R. Clark, S. Klein. "Exposure Reduction In Excretory Urography With Erbium Filtration and Rare Earth Screens." Investigative Radiology, 17:4,1 July/August, 1982.

**Publications - Proceedings:**

R. Endorff, F. DiBianca, D. Fritch, C. Burns, "Development of a Flash X-Ray Scanner for Stereoradiography and C.T. Society of Photo-Optical Instrumentation and Engineering, Proceedings: Medical Imaging III, Image Formation, Newport Beach CA, January 1989.

F. DiBianca, R. Endorff, C. Burns, D. Fritch, C. Liu, "A Flash X-Ray Scanner for Stereoradiography and C.T., American Association of Physicists in Medicine/Association of University Radiologist, Proceedings: Topical Symposium, New Orleans, April 1988.

D. Washburn, C. Burns, J. Streater, J. Cuttino, R. Clark, S. Klein. "Exposure Reduction In Excretory Urography With Erbium Filtration and Rare Earth Screens." Association of University Radiologists, Proceedings Thirtieth Annual Meeting, Baltimore, MD, March 1982.

**Grant Participation:**

**The Centers for Disease Control Mammography Quality Improvement Grant.**

Consultant in mammographic imaging and site intervention for mammographic facilities with an identified image quality problem.

**Presentations:**

237 Invited Presentations – A list is available if needed